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Gas Injection in Lower Cretaceous Reservoirs

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The lower cretaceous reservoirs in the Valdemar field are low permeable chalk which are generally under-exploited. It is clear that to improve recovery additional energy must be added to the reservoir. Gas injection is preferred to water injection due to the low permeability nature of the reservoirs, and high injectivity of gas. With careful selection of the injection gas it is possible to reduce the residual oil saturation, and in the case of complete miscibility achieve 100% recovery of oil on the microscopic scale. Gas injection is considered as the only viable technical EOR technique for DUC reservoirs (according to the DUC EOR Screening Study 2013).

We will present a study into the various methods of gas injection that have been carried out in the North Sea. Along with this we will describe how the gas injection can be tuned using various injection gases to further improve the recovery.